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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,465	02/09/2004	Kenji Moriwaki	725.1167	3600

21171 7590 06/08/2006

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EXAMINER	
AN, SANG WOOK	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/773,465	MORIWAKI ET AL.	
	Examiner	Art Unit	
	Sang W. An	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *10-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/26/04, 2/9/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-9, in the reply filed on 5/22/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishibori et al (5323971) in view of Zeiger (Aufbereitungs Technik).

Regarding claim 1, Nishibori et al teach a resin material remolding (abstract) method comprising: a preparation step of preparing pulverized pieces obtained upon pulverization of a coated resin molded product (col 7 lines 30-52) and coating film peeling of pulverized pieces (col 7 lines 53-59); and a molding step of performing molding by using the pulverized pieces having no coating film adhered after the separation step (col 23 lines 24-21). Nishibori et al also recognize the strong adhesion strength of the coating film on the resin article and the difficulty of peeling off the film (col 2 lines 57-64 & col 23 lines 14-21) but do not teach a determination step of sensing and determining the presence/absence of adhesion of the coating film for each individual pulverized piece after the preparation step; a separation step of separating a pulverized piece having the coating film adhered from pulverized pieces having no coating film adhered, on the basis of the determination result.

However, Zeiger teaches a step for sorting/separating out PET flakes based on color/coating film and ejecting the unwanted components out of the material flow (pg 43 par 3). Therefore it would have been obvious to one having ordinary skill in the art to modify Nishibori et al's method for resin material remolding to include a step for sorting/separating out pulverized flakes with coating film. One would be motivated to do so because as taught by Nishibori et al, it is very difficult to peel off all of the coating

film. In order to obtain the recycled resin in its purest form, one would be led to separate out particles with the coating film still on it and process those free of any coating film. Nishibori et al teach that the coating film is usually resin material of different colors (col 2 line 42-46) and as mentioned above Zeiger separates out flakes based on color. Thus, one having ordinary skill in the art would be led to use Zeiger's sorting step based on color to separate out pulverized powder with coating film from those free of coating.

Regarding claims 2 and 3, Nishibori et al do not teach that the determination step senses and determines the presence/absence of adhesion of the coating film by sensing the coating film itself or a specific material present in the coating film by using a (photo)sensor for sensing the coating film on the basis of a difference in lightness. However, Zeiger teaches using a (photo)sensor/camera to separate out unwanted components based on color or lightness (pg 43 sec 3.1 & pg 44 sec 3.2). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify Nishibori et al's method for resin material remolding to include a step for sorting/separating out pulverized flakes with coating film in order to obtain a final product in its purest form.

Regarding claims 4, Nishibori et al do not teach the sensing is executed by sensing means for irradiating the pulverized pieces with X-rays, and sensing X-rays having a specific wavelength excited from a specific material present in the coating film. However Zeiger teaches that metal detection can also be integrated as an option (pg 44 sec 3.3). Although Zeiger does not explicitly teach the use of X-rays, one having

ordinary skill in the art would know that X-rays are frequently used to detect metals. Therefore it would have been obvious to one having ordinary skill in the at the time of invention to modify Nishibori et al's method for resin material remolding to include a sensor with X-ray option in order to detect and separate out metal impurities.

Regarding claim 5, Nishibori et al do not teach that the sensing is executed for the pulverized pieces in a plurality of directions. However, Zeiger teaches using multiple cameras for detection (Fig 2, **4** and pg. 42 sec 2). Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to modify Nishibori et al's method for resin material remolding to include plurality of sensors in order to produce optimal detection.

Regarding claim 6 and 7, Nishibori et al do not teach that the determination step executes the sensing in a specific position midway along a moving path in which the pulverized pieces are moved in a specific direction, and the separation step executes the separation, when a pulverized piece having the coating film adhered is sensed in the determination step, by blowing a gas against the pulverized piece during freefall to change a moving direction of the pulverized piece having the coating film adhered to a direction different from a moving direction of a pulverized piece having no coating film adhered.

However, Zeiger teaches placing sensor midway along the moving path of the pulverized pieces (fig 2, **4**) and separating out unwanted color/coating film by blowing a gas/compressed air against pulverized pieces to change the moving direction of the pulverized piece having the color/coating film adhered to a direction different from a

moving direction of a pulverized piece having wanted-color/no coating film adhered (fig 2, **6** & pg. 43-44 sec 3.1).

Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to modify Nishibori et al's method for resin material remolding to include compressed air valves that would ejected unwanted components out of the material flow in order to sort out impurities.

Regarding claim 8, Nishibori et al teach that the coated resin molded product is pulverized at random by using a cutting tool having a rotary/stirring blade (col 12 lines 39-53). Nishibori et al also teach classifying the pulverized pieces by particle-diameter (fig 13, **255**) but do not teach the determination step. However, Zeiger teaches this determination step (pgs. 43-44 sec 3.1). Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to modify Nishibori et al's method for resin material remolding to include a determination step after step **256** in order to separate out unwanted components.

Regarding claim 9, Nishibori et al teach that the coated resin molded product is a used automobile part (col 2 lines 29-41).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang W. An whose telephone number is (571) 272-1997. The examiner can normally be reached on Mon-Fri 9 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina A. Johnson can be reached on (571)272-1176. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sang Wook An SAA
Patent Examiner
Art Unit 1732
June 1, 2006

CHRISTINA JOHNSON
PRIMARY EXAMINER
6/5/06